

REMARKS

Discussion of Rejections Under 35 USC §103(a)

The Examiner rejected Claims 1 and 4 under 35 USC §103(a) as allegedly unpatentable over what is disclosed in the Abstracts of JP 57056215 or JP 54023031. Additionally, the Examiner rejected Claims 1-3 under 35 USC §103(a) as allegedly unpatentable over JP 06150722. The Examiner contends the cited references teach all of the claimed features, including Cu base alloys, electrical conductivity, and tensile strength.

Claim 1, as amended, recites a copper alloy suitable for an IC lead pin for a pin grid array provided on a plastic substrate. The copper alloy consists of one of two claimed alloys. A first alloy consists of 0.05 to 0.5 wt% of Zn and 0.05 to 0.5 wt% of Mg, with the balance being made of unavoidable impurities and Cu. The second copper alloy consists of 0.1 to 1.0 wt% of Sn, with the balance being made of unavoidable impurities and Cu.

Because Applicant amended Claim 1 to delete the copper alloy including Ag, the rejections based on JP '031 and JP '215 are rendered moot. Both JP '031 and JP '215 disclose alloys having ranges of Ag. Because Claim 1 does not include a copper alloy having a range of Ag, the references do not disclose the claimed alloy.

With regard to the Sn-Cu alloy and the Zn-Mg-Cu alloy of Claims 1, 2, and 3, the reference cited by the Examiner (JP-06150722) discloses alloys with elements in the claimed ranges. However, it appears that the %IACS shown in Table 2 of the '722 reference refers to the electrical conductivity of the composite wire having a coating applied. See paragraph [0010]. "The 0.3 mm wire rod was obtained. Subsequently, a metal or an alloy as shown in these wire rods in Table 1 --covering material -- carrying out -- either electroplating or hot dipping -- the thickness of 2 micrometers." The test results presented in Table 2 represent test results of the composite rods having the coating material. Thus, the IACS% shown in Table 2 of the '722 reference no longer corresponds to the electrical conductivity value of a copper alloy *consisting of* the claimed Cu-Zn-Mg or Cu-Sn ranges.

Additionally, the '722 reference does not disclose the claimed tensile strength. Furthermore, the use of this alloy is in wiring for a coil in a liquid fuel injection system, and therefore the desired properties would not be the same as those desired for a lead pin for a pin grid array. Thus, the '722 reference does not suggest an alloy with the composition and properties of strength as currently claimed.

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The Examiner states that the claimed tensile strength is disclosed in JP '031. However, the JP '031 reference relates to a copper alloy having at least 0.03 - 0.25 wt.% Ag. The copper alloys of Claims 1-3 do not include any Ag component. Thus, because the alloy disclosed in JP '031 is distinct from the claimed alloy, the disclosed properties of the alloys in the JP '031 reference to the properties of the claimed alloys. JP '031 provides no motivation to produce a copper alloy lacking Ag. Thus, there is no suggestion linking the alloy of JP '031 with the alloys of JP '772.

Therefore, Applicant respectfully requests reconsideration and allowance of Claims 1-3 because the references, either alone or in combination, fail to disclose or suggest all of the claimed features.

Claim 4 recites a copper alloy suitable for an IC lead pin for a pin grid array provided on a plastic substrate. The copper alloy consists of 0.7 to 1.0 wt% of Sn and 0.1 to 0.6 wt% of Ag, with the balance being made of unavoidable impurities and Cu. The cited references do not disclose the claimed copper alloy. The JP '772 reference does not disclose any copper alloy consisting of Cu-Sn-Ag. Similarly, the JP '031 and JP '215 references do not disclose a copper alloy having the claimed range of Ag. JP '031 discloses a copper alloy with an Ag range of 0.03 - 0.25 wt.%. JP '215 discloses a copper alloy having an Ag range of 0.03 - 0.3%. Thus neither JP '031 nor JP '215 disclose the claimed range of Ag. Applicant respectfully requests reconsideration and allowance of Claim 4 because the cited references fail to teach or suggest all of the claimed features.

CONCLUSION

Applicant has endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, amendments to the claims for patentability purposes pursuant to 35 U.S.C. §103, the reasons therefor, and arguments in support of the patentability of the pending claim set are presented above. In light of these amendments and remarks, reconsideration and withdrawal of the outstanding rejections is respectfully requested. Applicant submits that the claim limitations discussed above represent only illustrative distinctions. Hence, there may be other patentable features that distinguish the claimed invention from the prior art.

If there are any impediments to allowance of the claims that can be resolved with a telephone call, the Examiner is respectfully invited to call the undersigned.

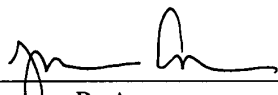
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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: 7/24/03

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